ENTERED

RAW SEQUENCE LISTING   DATE: 07/05/2000
PATENT APPLICATION: US/09/502,698   TIME: 12:52:37

Input Set : A:\Sequence.txt
Output Set: N:\CRF3\07052000\I502698.raw

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 4 <110> APPLICANT: Funahashi, Shin-ichi
 5         Miyata, Shoji
 7 <120> TITLE OF INVENTION: PROTEIN HAVING PDZ DOMAIN SEQUENCE
 9 <130> FILE REFERENCE: 06501/056001
11 <140> CURRENT APPLICATION NUMBER: US 09/502,698
12 <141> CURRENT FILING DATE: 2000-02-11
14 <150> PRIOR APPLICATION NUMBER: PCT/JP98/03603
15 <151> PRIOR FILING DATE: 1998-08-12
17 <150> PRIOR APPLICATION NUMBER: JP 10/189944
18 <151> PRIOR FILING DATE: 1998-06-19
20 <150> PRIOR APPLICATION NUMBER: JP 09/230356
21 <151> PRIOR FILING DATE: 1997-08-12
23 <160> NUMBER OF SEQ ID NOS: 93
25 <170> SOFTWARE: FastSEQ for Windows Version 4.0
27 <210> SEQ ID NO: 1
28 <211> LENGTH: 1373
29 <212> TYPE: PRT
30 <213> ORGANISM: Homo sapiens
32 <400> SEQUENCE: 1
33 Met Val Cys Cys Arg Arg Thr Val Pro Pro Thr Thr Gln Ser Glu Leu
34   1               5                  10                  15
35 Asp Ser Leu Asp Leu Cys Asp Ile Glu Leu Thr Glu Lys Pro His Val
36              20                  25                  30
37 Asp Leu Gly Glu Phe Ile Gly Ser Ser Glu Thr Glu Asp Pro Val Leu
38          35                  40                  45
39 Ala Met Thr Asp Ala Gly Gln Ser Thr Glu Glu Val Gln Ala Pro Leu
40       50                  55                  60
41 Ala Met Trp Glu Ala Gly Ile Gln His Ile Glu Leu Glu Lys Gly Ser
42  65                  70                  75                  80
43 Lys Gly Leu Gly Phe Ser Ile Leu Asp Tyr Gln Asp Pro Ile Asp Pro
44              85                  90                  95
45 Ala Ser Thr Val Ile Ile Ile Arg Ser Leu Val Pro Gly Gly Ile Ala
46             100                 105                 110
47 Glu Lys Asp Gly Arg Leu Leu Pro Gly Asp Arg Leu Met Phe Val Asn
48          115                 120                 125
49 Asp Val Asn Leu Glu Asn Ser Ser Leu Glu Glu Ala Val Glu Ala Leu
50         130                 135                 140
51 Lys Gly Ala Pro Ser Gly Thr Val Arg Ile Gly Val Ala Lys Pro Leu
52 145                 150                 155                 160
53 Pro Leu Ser Pro Glu Glu Gly Tyr Val Ser Ala Lys Glu Asp Ser Phe
54                 165                 170                 175
55 Leu Tyr Pro Pro His Ser Cys Glu Glu Ala Gly Leu Ala Asp Lys Pro
56             180                 185                 190
57 Leu Phe Arg Ala Asp Leu Ala Leu Val Gly Thr Asn Asp Ala Asp Leu
58          195                 200                 205
59 Val Asp Glu Ser Thr Phe Glu Ser Pro Tyr Ser Pro Glu Asn Asp Ser
60         210                 215                 220
```

```
61 Ile Tyr Ser Thr Gln Ala Ser Ile Leu Ser Leu His Gly Ser Ser Cys
62 225             230             235             240
63 Gly Asp Gly Leu Asn Tyr Gly Ser Ser Leu Pro Ser Ser Pro Pro Lys
64             245             250             ·     255
65 Asp Val Ile Glu Asn Ser Cys Asp Pro Val Leu Asp Leu His Met Ser
66             260             265             270
67 Leu Glu Glu Leu Tyr Thr Gln Asn Leu Leu Glu Arg Gln Asp Glu Asn
68         275             280         ·         285
69 Thr Pro Ser Val Asp Ile Ser Met Gly Pro Ala Ser Gly Phe Thr Ile
70     290             295             300
71 Asn Asp Tyr Thr Pro Ala Asn Ala Ile Glu Gln Tyr Glu Cys Glu
72 305             310             315             320
73 Asn Thr Ile Val Trp Thr Glu Ser His Leu Pro Ser Glu Val Ile Ser
74             325             330             335
75 Ser Ala Glu Leu Pro Ser Val Leu Pro Asp Ser Ala Gly Lys Gly Ser
76             340             345             350
77 Glu His Leu Leu Glu Gln Ser Ser Leu Ala Cys Asn Ala Glu Cys Val
78         355             360             365
79 Met Leu Gln Asn Val Ser Lys Glu Ser Phe Glu Arg Thr Ile Asn Ile
80     370             375             380
81 Ala Lys Gly Asn Ser Ser Leu Gly Met Thr Val Ser Ala Asn Lys Asp
82 385             390             395             400
83 Gly Leu Gly Met Ile Val Arg Ser Ile Ile His Gly Gly Ala Ile Ser
84             405             410             415
85 Arg Asp Gly Arg Ile Ala Ile Gly Asp Cys Ile Leu Ser Ile Asn Glu
86             420             425             430
87 Glu Ser Thr Ile Ser Val Thr Asn Ala Gln Ala Arg Ala Met Leu Arg
88         435             440             445
89 Arg His Ser Leu Ile Gly Pro Asp Ile Lys Ile Thr Tyr Val Pro Ala
90     450             455             460
91 Glu His Leu Glu Glu Phe Lys Ile Ser Leu Gly Gln Gln Ser Gly Arg
92 465             470             475             480
93 Val Met Ala Leu Asp Ile Phe Ser Ser Tyr Thr Gly Arg Asp Ile Pro
94             485             490             495
95 Glu Leu Pro Glu Arg Glu Glu Gly Glu Gly Glu Glu Ser Glu Leu Gln
96             500             505             510
97 Asn Thr Ala Tyr Ser Asn Trp Asn Gln Pro Arg Arg Val Glu Leu Trp
98         515             520             525
99 Arg Glu Pro Ser Lys Ser Leu Gly Ile Ser Ile Val Gly Gly Arg Gly
100     530             535             540
101 Met Gly Ser Arg Leu Ser Asn Gly Glu Val Met Arg Gly Ile Phe Ile
102 545             550             555             560
103 Lys His Val Leu Glu Asp Ser Pro Ala Gly Lys Asn Gly Thr Leu Lys
104             565             570             575
105 Pro Gly Asp Arg Ile Val Glu Ala Pro Ser Gln Ser Glu Ser Glu Pro
106             580             585             590
107 Glu Lys Ala Pro Leu Cys Ser Val Pro Pro Pro Pro Ser Ala Phe
108         595             600             605
109 Ala Glu Met Gly Ser Asp His Thr Gln Ser Ser Ala Ser Lys Ile Ser
```

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           Input Set : A:\Sequence.txt
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110      610                   615                   620
111 Gln Asp Val Asp Lys Glu Asp Glu Phe Gly Tyr Ser Trp Lys Asn Ile
112 625              630              635              640
113 Arg Glu Arg Tyr Gly Thr Leu Thr Gly Glu Leu His Met Ile Glu Leu
114              645              650              655
115 Glu Lys Gly His Ser Gly Leu Gly Leu Ser Leu Ala Gly Asn Lys Asp
116              660              665              670
117 Arg Ser Arg Met Ser Val Phe Ile Val Gly Ile Asp Pro Asn Gly Ala
118              675              680              685
119 Ala Gly Lys Asp Gly Arg Leu Gln Ile Ala Asp Glu Leu Leu Glu Ile
120      690              695              700
121 Asn Gly Gln Ile Leu Tyr Gly Arg Ser His Gln Asn Ala Ser Ser Ile
122 705              710              715              720
123 Ile Lys Cys Ala Pro Ser Lys Val Lys Ile Ile Phe Ile Arg Asn Lys
124              725              730              735
125 Asp Ala Val Asn Gln Met Ala Val Cys Pro Gly Asn Ala Val Glu Pro
126              740              745              750
127 Leu Pro Ser Asn Ser Glu Asn Leu Gln Asn Lys Glu Thr Glu Pro Thr
128      755              760              765
129 Val Thr Thr Ser Asp Ala Ala Val Asp Leu Ser Ser Phe Lys Asn Val
130      770              775              780
131 Gln His Leu Glu Leu Pro Lys Asp Gln Gly Gly Leu Gly Ile Ala Ile
132 785              790              795              800
133 Ser Glu Glu Asp Thr Leu Ser Gly Val Ile Ile Lys Ser Leu Thr Glu
134              805              810              815
135 His Gly Val Ala Ala Thr Asp Gly Arg Leu Lys Val Gly Asp Gln Ile
136              820              825              830
137 Leu Ala Val Asp Asp Glu Ile Val Val Gly Tyr Pro Ile Glu Lys Phe
138      835              840              845
139 Ile Ser Leu Leu Lys Thr Ala Lys Met Thr Val Lys Leu Thr Ile His
140      850              855              860
141 Ala Glu Asn Pro Asp Ser Gln Ala Val Pro Ser Ala Ala Gly Ala Ala
142 865              870              875              880
143 Ser Gly Glu Lys Lys Asn Ser Ser Gln Ser Leu Met Val Pro Gln Ser
144              885              890              895
145 Gly Ser Pro Glu Pro Glu Ser Ile Arg Asn Thr Ser Arg Ser Ser Thr
146              900              905              910
147 Pro Ala Ile Phe Ala Ser Asp Pro Ala Thr Cys Pro Ile Ile Pro Gly
148      915              920              925
149 Cys Glu Thr Thr Ile Glu Ile Ser Lys Gly Arg Thr Gly Leu Gly Leu
150      930              935              940
151 Ser Ile Val Gly Gly Ser Asp Thr Leu Leu Gly Ala Phe Ile Ile His
152 945              950              955              960
153 Glu Val Tyr Glu Glu Gly Ala Ala Cys Lys Asp Gly Arg Leu Trp Ala
154              965              970              975
155 Gly Asp Gln Ile Leu Glu Val Asn Gly Ile Asp Leu Arg Lys Ala Thr
156              980              985              990
157 His Asp Glu Ala Ile Asn Val Leu Arg Gln Thr Pro Gln Arg Val Arg
158      995              1000             1005
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RAW SEQUENCE LISTING   DATE: 07/05/2000
PATENT APPLICATION: US/09/502,698   TIME: 12:52:37

Input Set : A:\Sequence.txt
Output Set: N:\CRF3\07052000\I502698.raw

```
159 Leu Thr Leu Tyr Arg Asp Glu Ala Pro Tyr Lys Glu Glu Glu Val Cys
160      1010                1015                1020
161 Asp Thr Leu Thr Ile Glu Leu Gln Lys Lys Pro Gly Lys Gly Leu Gly
162 1025                1030                1035                1040
163 Leu Ser Ile Val Gly Lys Arg Asn Asp Thr Gly Val Phe Val Ser Asp
164                1045                1050                1055
165 Ile Val Lys Gly Gly Ile Ala Asp Pro Asp Gly Arg Leu Ile Gln Gly
166                1060                1065                1070
167 Asp Gln Ile Leu Leu Val Asn Gly Glu Asp Val Arg Asn Ala Ser Gln
168         1075                1080                1085
169 Glu Ala Val Ala Ala Leu Leu Lys Cys Ser Leu Gly Thr Val Thr Leu
170      1090                1095                1100
171 Glu Val Gly Arg Ile Lys Ala Gly Pro Phe His Ser Glu Arg Arg Pro
172 1105                1110                1115                1120
173 Ser Gln Thr Ser Gln Val Ser Glu Gly Tyr Ser Leu Ser Ser Phe Thr Phe
174                1125                1130                1135
175 Pro Leu Ser Gly Ser Ser Thr Ser Glu Ser Leu Glu Ser Ser Ser Lys
176                1140                1145                1150
177 Lys Asn Ala Leu Ala Ser Glu Ile Gln Gly Leu Arg Thr Val Glu Met
178         1155                1160                1165
179 Lys Lys Gly Pro Thr Asp Ser Leu Gly Ile Ser Ile Ala Gly Gly Val
180      1170                1175                1180
181 Gly Ser Pro Leu Gly Asp Val Pro Ile Phe Ile Ala Met Met His Pro
182 1185                1190                1195                1200
183 Thr Gly Val Ala Ala Gln Thr Gln Lys Leu Arg Val Gly Asp Arg Ile
184                1205                1210                1215
185 Val Thr Ile Cys Gly Thr Ser Thr Glu Gly Met Thr His Thr Gln Ala
186                1220                1225                1230
187 Val Asn Leu Leu Lys Asn Ala Ser Gly Ser Ile Glu Met Gln Val Val
188         1235                1240                1245
189 Ala Gly Gly Asp Val Ser Val Val Thr Gly His His Gln Glu Pro Ala
190      1250                1255                1260
191 Ser Ser Ser Leu Ser Phe Thr Gly Leu Thr Ser Thr Ser Ile Phe Gln
192 1265                1270                1275                1280
193 Asp Asp Leu Gly Pro Pro Gln Cys Lys Ser Ile Thr Leu Glu Arg Gly
194                1285                1290                1295
195 Pro Asp Gly Leu Gly Phe Ser Ile Val Gly Gly Tyr Gly Ser Pro His
196                1300                1305                1310
197 Gly Asp Leu Pro Ile Tyr Val Lys Thr Val Phe Ala Lys Gly Ala Ala
198         1315                1320                1325
199 Ser Glu Asp Gly Arg Leu Lys Arg Gly Asp Gln Ile Ile Ala Val Asn
200      1330                1335                1340
201 Gly Gln Ser Leu Glu Gly Val Thr His Glu Glu Ala Val Ala Ile Leu
202 1345                1350                1355                1360
203 Lys Arg Thr Lys Gly Thr Val Thr Leu Met Val Leu Ser
204                1365                1370
206 <210> SEQ ID NO: 2
207 <211> LENGTH: 1005
208 <212> TYPE: PRT
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209 <213> ORGANISM: Homo sapiens
211 <400> SEQUENCE: 2
212 Met Leu Gln Asn Val Ser Lys Glu Ser Phe Glu Arg Thr Ile Asn Ile
213  1               5                  10                  15
214 Ala Lys Gly Asn Ser Ser Leu Gly Met Thr Val Ser Ala Asn Lys Asp
215              20                  25                  30
216 Gly Leu Gly Met Ile Val Arg Ser Ile Ile His Gly Gly Ala Ile Ser
217          35                  40                  45
218 Arg Asp Gly Arg Ile Ala Ile Gly Asp Cys Ile Leu Ser Ile Asn Glu
219      50                  55                  60
220 Glu Ser Thr Ile Ser Val Thr Asn Ala Gln Ala Arg Ala Met Leu Arg
221  65                  70                  75                  80
222 Arg His Ser Leu Ile Gly Pro Asp Ile Lys Ile Thr Tyr Val Pro Ala
223              85                  90                  95
224 Glu His Leu Glu Glu Phe Lys Ile Ser Leu Gly Gln Gln Ser Gly Arg
225              100                 105                 110
226 Val Met Ala Leu Asp Ile Phe Ser Ser Tyr Thr Gly Arg Asp Ile Pro
227          115                 120                 125
228 Glu Leu Pro Glu Arg Glu Glu Gly Glu Gly Glu Glu Ser Glu Leu Gln
229      130                 135                 140
230 Asn Thr Ala Tyr Ser Asn Trp Asn Gln Pro Arg Arg Val Glu Leu Trp
231 145                 150                 155                 160
232 Arg Glu Pro Ser Lys Ser Leu Gly Ile Ser Ile Val Gly Gly Arg Gly
233              165                 170                 175
234 Met Gly Ser Arg Leu Ser Asn Gly Glu Val Met Arg Gly Ile Phe Ile
235          180                 185                 190
236 Lys His Val Leu Glu Asp Ser Pro Ala Gly Lys Asn Gly Thr Leu Lys
237          195                 200                 205
238 Pro Gly Asp Arg Ile Val Glu Ala Pro Ser Gln Ser Glu Ser Glu Pro
239      210                 215                 220
240 Glu Lys Ala Pro Leu Cys Ser Val Pro Pro Pro Pro Ser Ala Phe
241 225                 230                 235                 240
242 Ala Glu Met Gly Ser Asp His Thr Gln Ser Ser Ala Ser Lys Ile Ser
243              245                 250                 255
244 Gln Asp Val Asp Lys Glu Asp Glu Phe Gly Tyr Ser Trp Lys Asn Ile
245              260                 265                 270
246 Arg Glu Arg Tyr Gly Thr Leu Thr Gly Glu Leu His Met Ile Glu Leu
247          275                 280                 285
248 Glu Lys Gly His Ser Gly Leu Gly Leu Ser Leu Ala Gly Asn Lys Asp
249      290                 295                 300
250 Arg Ser Arg Met Ser Val Phe Ile Val Gly Ile Asp Pro Asn Gly Ala
251 305             310                 315                 320
252 Ala Gly Lys Asp Gly Arg Leu Gln Ile Ala Asp Glu Leu Leu Glu Ile
253              325                 330                 335
254 Asn Gly Gln Ile Leu Tyr Gly Arg Ser His Gln Asn Ala Ser Ser Ile
255              340                 345                 350
256 Ile Lys Cys Ala Pro Ser Lys Val Lys Ile Ile Phe Ile Arg Asn Lys
257          355                 360                 365
258 Asp Ala Val Asn Gln Met Ala Val Cys Pro Gly Asn Ala Val Glu Pro
```

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220> to
<223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY   DATE: 07/05/2000
PATENT APPLICATION: US/09/502,698   TIME: 12:52:38

Input Set : A:\Sequence.txt
Output Set: N:\CRF3\07052000\I502698.raw

L:894 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13